IN THE SPECIFICATION

Please substitute the substitute Specification for the Specification originally filed.

IN THE CLAIMS

Please cancel claims 28, 44, 52 and 54.

Please add the following claims:

-- 55. (New) A procedure to exert or measure optically-induced forces which are capable of moving at least one particle or holding at least one particle in a focus of an optical cage formed with a light beam, comprising:

a) positioning the focus in a microelectrode arrangement in which an electrical field is formed that has a field gradient which forms a three-dimensional electrical capture area, said electrical capture area representing an electrical field cage with a capture point at a minimum electrical field level of the capture area, wherein the focus is positioned at a distance from the capture point

b) positioning said at least one particle at one of the focus and the capture point,

c) varying at least one parameter selected from an amplitude of said electrical field, a light power of said light beam and the distance of the capture point from the focus until the particle moves between the focus and the capture area, and

d) exerting said optically-induced forces, wherein said at least one particle is at least temporarily moved between the focus and the capture area, or measuring said optically-induced forces, wherein said at least one parameter varied in step c) is detected when said at least one particle moves between the focus and the capture point.

--56. (New) A device to measure or exert optically-induced forces which are capable to move or hold at least one particle in a focus of an optical cage formed with a light beam that comprises:

-a fluid microsystem with a microelectrode arrangement that is set up to form an electrical field that has a field gradient which forms a three-dimensional electrical capture area, said electrical capture area representing an electrical field cage with a capture point at a minimum electrical field level of the capture area,

-an illuminating device that is set up to emit a laser beam forming an optical cage in the microelectrode arrangement of the microsystem, and

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-a monitoring and/or detection device to optically measure a movement of said at least one particle in the microelectrode arrangement.--

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Please amend the claims as follows:

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29. (Amended) The process according to claim 55 in which a particle is placed in the focus or capture area to measure optically-induced forces, and the optically-induced forces are measured from the amplitude of the electrical field and the distance of the capture area from the focus when the particle moves from the focus to the capture area or vice versa.—

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--30. (Amended) The process according to claim 29 in which the optically-induced forces are repeatedly measured for all relevant directions in space corresponding to mutual alignment of said positions of said focus and said capture area.—

--31. (Amended) The process according to claim 29 in which the optical cage is calibrated by determining a relationship between the light power to generate the optical cage and the forces induced on a particle in the optical cage.--

--32. (Amended) The process according to claim 55 in which the distance between the focus and capture area is at least one-tenth of a particle diameter.--

--33. (Amended) The process according to claim 55 in which the capture area is a capture point that is in a beam field of the optical cage so that the at least one particle moves back and forth between the capture point and focus when the amplitude of one of the electrode signals and light power is varied, and an associated value of the amplitude is used to measure the optically-induced forces.--

--34. (Amended) The process according to claim 55 in which numerous particles are sequentially injected with said optical cage into said capture area, wherein said particles are positioned in predetermined positions within the capture area relative to other particles in the capture area.—

--35. (Amended) The process according to claim 55 in which the light beam of the optical cage is adjusted and one of a capture quality and symmetry of the optical cage are measured.--

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--36. (Amended) The process according to claim 55 in which passive electric properties of said at least one particle are characterized based on the measured optically-induced forces.--

--38. (Amended) The process according to claim 55 in which an electrode of the microelectrode arrangement is alternatively supplied with at least one of signals phase-shifted 180° and rotation-generating signals with a predetermined phase division.—

--39. (Amended) The process according to claim 55 in which at least one field barrier is formed between said capture point and said optical cage.--

--40. (Amended) The process according to claim 55 in which a particle movement is detected by one of optical and electrical detection.--

--41. (Amended) The process according to claim 55 in which the particles are synthetic or natural particles with a size less than 200 μm.--

--42. (Amended) The process according to claim 55 in which the particles are biological cells or their components.--

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--43. (Amended) The process according to claim 55 in which the movement of the particle between the capture area and the focus is used to adjust the optical cage.--

--45. (Amended) The device according to claim 56 in which the microelectrode arrangement comprises flat electrodes that are in groups on two spaced substrates of which at least one is transparent.—

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--46. (Amended) The device according to claim 45 in which the transparent substrate is has a thickness of less than 500 μm.--

--49. (Amended) The device according to claims 56 in which the microelectrode arrangement comprises electrodes that are set up to generate a multiple field with an electrical field distribution symmetrical in at least one of the x, y and z direction.--

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--50. (Amended) The device according to claim 56 in which the electrodes are coated with a layer of one of an insulating material, dielectric or a metal, which layer is essentially inert to a suspension liquid in the fluid microsystem.--

--52. (Amended) The device according to claim 56 in which the electrodes are constructed in three-dimensional shapes at least partially using methods from semiconductor technology.--

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--53. (Amended) Calibrating a laser tweezer by exerting optically-induced forces on at least one particle and measuring said forces with a procedure according to claim 55.--